

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) Joint A pneumatic structural element comprising; for introducing tensile and compressive forces, in a manner free of bending moments, into pneumatic structural elements (1) which comprise a sleeve (2), at least one compression member (3), at least two tension members (4) and two spherical caps (5), characterized in that

[-] a gas-tight inflatable hollow body;

at least one spherical end cap disposed at an end of the gas-tight inflatable hollow body;

at least one compression member disposed along a length of the gas-tight inflatable hollow body;

at least two flexible tension members attached to respective ends of the at least one compression member in a joint, the at least two flexible tension members disposed in opposite helical positions around the gas-tight inflatable hollow body and tightly abut the gas-tight inflatable hollow body;

a node element comprising a plate-shaped section having an opening operable to accommodate the at least one spherical end cap, first means for fastening the at least two flexible tension members to the plate-shaped section [(4)] and second means for fastening the at least one compression member to the plate-shaped section; (3) are provided

wherein, responsive to pressurization of the gas-tight inflatable hollow body, the at least two flexible tension members are equally stressed;

wherein the joint comprises a joint element operable to support the pneumatic structural element;

wherein the first and second means for fastening are arranged such that, responsive to application of a load, the form is selected such that bending moments within the joint elements are symmetrical relative to the at least one compression member; and

wherein the vectors of the tensile forces of exerted by the at least two flexible tension members [(4)], of and the compressive forces exerted by the at least one compression member [(3)] and of the a bearing forces exerted on the plate-shaped section in the joint

element added together give sum to zero, resulting in no bending moments being produced in the at least one compression member[1,]

- [[-]]
 - no torques are introduced from the outside or diverted to the outside;
 - [[-]]
 - the bending moments within the joint element occur symmetrically in relation to the at least one compression member (3).

2-4. (Canceled)

5. (Currently Amended) Joint The pneumatic structural element according to claim 1 Patent Claim 3 or 4, characterized in that wherein the second means for fastening the at least one compression member comprise a hole [[(12)]] with a screw [[(15)]], and the first means for fastening the at least two flexible tension members [[(4)]] comprise holes [[(11)]] for introducing the at least two flexible tension members [[(4)]] and fastening them with nuts [[(17)]].

6. (Currently Amended) Joint The pneumatic structural element according to Patent Claim 5 6, characterized in that wherein the plate (9) plate-shaped section is designed as a flange [[(27)]].

7. (Currently Amended) Joint The pneumatic structural element according to Patent Claim 1 2, characterized in that wherein:

a cover (22) is provided and the large opening (10) is formed such that the cover (22), which is the at least one spherical end cap is received by and enclosed by the gas-tight inflatable hollow body; a sleeve (2) of the pneumatic structural element (1),

the at least one spherical end cap can be introduced flush into an the opening [[(10)]] of the gas-tight inflatable hollow body; and [.,] and

auxiliary sealing means are provided for sealing purposes, these closing off the cover (22) and the sleeve (2) sealing the at least one spherical end cap and the gas-tight inflatable hollow body in a gas-tight manner in the outward direction.

8. (Currently Amended) Joint The pneumatic structural element according to Patent Claim 7, characterized in that wherein:

the at least one spherical end cap cover (22) and the large opening [[(10)]] have a cylindrical part [[(18)]] and a conical or spherical part [[(21),]]; and at least one first O-ring [[(23)]] is disposed in an O-ring groove [[(24)]] is provided in the cylindrical part (18) of the cover (22) and an second O-ring [[(19)]] is disposed in an O-ring groove [[(20)]] is provided in the cylindrical part of the opening [[(10)]].

9. (Currently Amended) Connecting element by means of which The pneumatic structural elements (1) element of claim 1, comprising; which comprise a sleeve (2), at least one compression member (3), at least two tension members (4) and two spherical caps (5) are connected to static structures, characterized in that

[-] a connecting element, the connecting element comprising:

means for fastening at least one the joint element are provided; and[.]

[-] the form is selected wherein the connecting element is arranged such that the bearing forces can be introduced into the joint elements.

10. (Withdrawn) Connecting element according to Patent Claim 9, characterized in that it is constructed from at least one plate (28) with in each case at least one shoulder (33) in which the plate (9, 27) can be positioned, and provided for each plate (28) is in each case one plate (29) which comprises at least one piece, in which a shoulder (33) is likewise made and which can be firmly screwed to the plate (28), with the result that the plate (9, 27) is accommodated by the plates (28) and (29).

11. (Withdrawn) Connecting element according to Patent Claim 10, characterized in that it is a three-dimensional body made up, at least in part, of plates (28).

12. (Currently Amended) Connecting The pneumatic structural element according to Patent Claim 9, characterized in that wherein the connecting element is a frame structure on which the at least one joint element can be fastened and thus forms at least part of a side surface of the frame structure.

13. (Currently Amended) Connecting The pneumatic structural element according to Patent Claim 11 or 12, characterized in that wherein the connecting element it is polygonal in a horizontal projection, and at least one joint element can be fastened on at least one of the side walls wall of the connecting element polygonal body formed in this way.

14. (Currently Amended) Connecting The pneumatic structural element according to Patent Claim 13, characterized in that wherein the joint elements can be fastened on a plurality of sides of the connecting element polygonal body, with the result that wherein the pneumatic structural element elements [(1)] are is arranged in the manner of spokes around the connecting element.

15. (Withdrawn) Connecting element according to Patent Claim 10 or 12, characterized in that it is rectangular and a plurality of joint elements can be fastened thereon, with the result that the pneumatic structural elements run parallel to one another.

16. (Withdrawn) Connecting element according to Patent Claim 10 or 12, characterized in that it is curved and a plurality of joint elements can be fastened thereon, with the result that the pneumatic structural elements run parallel to one another.

17. (Currently Amended) Connecting The pneumatic structural element according to Patent Claim 11 or 12, characterized in that wherein the connecting element comprises it has the external form of a tetrahedron shape and at least one the joint element can be fastened per to a side of the connecting element tetrahedron.

18. (Currently Amended) Connecting The pneumatic structural element according to Patent Claim 11 or 12, characterized in that wherein the connecting element comprises it has the external form of a cube shaped external form and at least one the joint element can be fastened per to a side of the connecting element cube.

19. (Currently Amended) Connecting The pneumatic structural element according to Patent Claim 11 or 12, characterized in that wherein the connecting element comprises it has the external form of a truncated pyramid external form and at least one the joint element can be fastened per to a side of the connecting element truncated pyramid.

20. (Currently Amended) Connecting The pneumatic structural element according to Patent Claim 12, wherein characterized in that the at least one joint element is screwed tight.

21. (New) The pneumatic structural element according to claim 1, wherein the joint element comprises at least one second joint element operable to allow attachment of at least one additional pneumatic structural element.